

THE CONDOR

A Magazine of Western
Ornithology



Volume VII November-December, 1905 Number 6



COOPER ORNITHOLOGICAL CLUB

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IN THE FOREST NEAR FIGRES

THE CONDOR A MAGAZINE OF WESTERN ORNITHOLOGY.



Volume VII

November-December 1905

Number 6

A Winter with the Birds in Costa Rica

BY ROBERT RIDGWAY

WITH PHOTOGRAPHS BY THE AUTHOR

PROBABLY every ornithologist has hoped sometime in his life to visit the Tropics and see for himself the many wonderful things of which he has heard or read so much, and especially to see alive and in their natural environment, the strange and beautiful birds so inseparably associated in his mind with tropical lands. I had myself for many years looked forward to the possibility of such an enjoyable experience, but without serious expectation that my hope would ever be realized until the receipt of a cordial invitation from my friend Don José C. Zeledon, of San José, Costa Rica, offered the desired opportunity, and I accordingly started for Costa Rica, accompanied by my wife, on November 28, 1904. Arriving in San José on December 8, we remained until May 28, 1905, our stay therefore covering a period of nearly six months, during which the country was traversed from ocean to ocean and from sea-level to the highest point of land, the summit of Irazú, 11500 feet in elevation.

Owing to negligence of the express company to which it had been consigned for shipment, my outfit did not reach me until February 26, 1905. No collecting could therefore be done during the first two months; but the time was in part profitably employed in making trips to different points in order to look up the most promising and convenient locations for collecting. In this preliminary work, as well as in the subsequent collecting trips every possible assistance was rendered by my friends Don José C. Zeledon and Don Anastasio Alfaro, Director of the Costa Rica National Museum, one or the other, sometimes both, of whom accompanied me on each occasion. One could not desire more agreeable or helpful com-

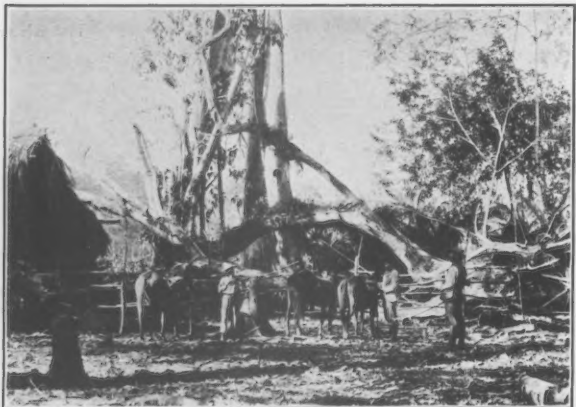
rades than these excellent ornithologists and enthusiastic collectors, and I consider myself most fortunate to have been favored by their companionship in a country where everything was new to me and where natural conditions were often such that I could not alone have even reached the localities where collections were made.

In a country where everything is novel and full of interest even but six months' experience embraces far too much to be told in a few pages; consequently I shall attempt only a brief account in this article.

Before arrival of my outfit only three trips to a considerable distance from San José were made; to Santo Domingo de San Mateo, (December 30 to January 2), to the summit of the volcano of Poás (January 21 to 23), and to Pigres, on the Pacific Coast (February 2 to 5). The last named place having been visited a second time (after arrival of the outfit) and some three weeks spent there, a somewhat detailed account of that locality and our experiences there will be given further on.

Santo Domingo de San Mateo is the present terminus of the railroad from San José to the Pacific, and is situated on the upper edge of the coast plain about thirty miles from Punta Arenas, the Pacific port, with which connection is made by

horseback and car-rata. For a considerable distance from the town the country is cleared and under cultivation or in pasture, the nearest forest being along the Rio Grande de Tarcoles, a few miles to the south-east. In some of the *potreros* (pastures) are patches of woodland of limited extent, mostly along the small streams flowing into the Rio Grande. As little time was



LANDING ON RIO GRANDE DE TARCOLES; END OF HORSEBACK RIDE TO PIGRES

spent here, and there was but one gun between us (Mr. Alfaro being my companion on this occasion) few birds were obtained, the only one of special interest being *Pteroglossus frantzii*, a rare toucan, six or seven of which I had the tantalizing pleasure of watching in a tree close by while Alfaro was elsewhere with the gun. Our time was too limited to allow of a visit to the forest along the Rio Grande, just beyond which loomed high and inviting the noble peak of Turuvales, completely covered with primitive forest and never even visited by a naturalist!

Poás (8700 feet) is the only active volcano in Costa Rica, and is in plain view from San José as are also Irazú and Barba, the last lying between the other two. Starting from Poás we proceeded by rail from San José to Alajuela, where we took horses and rode to San Pedro de Alajuela, remaining over night and resuming our journey, by bright moonlight, at four o'clock next morning. Reaching the *lecheria* (dairy farm) at the upper edge of the cleared zone after daybreak we rested a few

^a Names of localities are so frequently duplicated in Spanish American countries that in order to be precise it is necessary to give the name of the province or canton in addition to that of the town or settlement. Neglect of collectors to do this has caused many serious errors in books concerning the range of species.

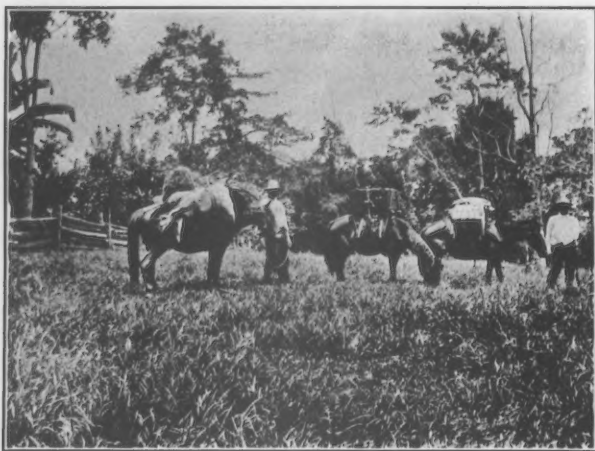
minutes and were refreshed by good draughts of fresh milk and hot coffee. We then entered the primitive forest which still covers the last thousand feet, more or less, of the mountains, proceeding slowly and laboriously along a narrow trail of stiff black mud, up to the horses' knees and often deeper, and full of tree roots in which the horses' feet were frequently entangled. The density of this forest was such that it was impossible to leave the trail at any point without cutting a way with *machetes*; and as the undergrowth consisted mostly of slender climbing bamboos with exceedingly hard stems, which almost completely filled the spaces between the trees, the difficulty of making much headway may be imagined. The variety of trees in this forest was very great, many of the trees very large, and some of extreme beauty. All were fairly burdened with orchids, bromeliads, and mistletoes, the latter often conspicuously and brilliantly flowered and the bromeliads mostly of brilliant hues of orange, scarlet, or crimson. Here is the home of the royal Quetzal (*Pharomachrus mocinno*)—the most gracefully and magnificently beautiful of all birds—amid surroundings no less magnificent than itself. Leaving our horses in an open basin (an ancient crater) surrounded by forest, we proceeded on foot to the summit of the cinder cone, but were disappointed in our view of the crater, which was completely filled with dense clouds, except for a moment when the strong wind dispersed the mass of vapor and allowed a brief glimpse of the boiling lake, 400 metres below. From the summit of the cone we descended to the lagoon (another extinct crater) filled with clear water of almost icy coldness, and surrounded by dense forest. Our stay was much too short to enable us to learn much of the birds found on Poás, but they were everywhere present in great variety, except on the bare summit, where none whatever were seen.

ore | Pigres is a very small village of thatched bamboo *ranchos* on a narrow point of land (in reality a mere sand-bar) at the mouth of the Río Grande de Tárcoles, which enters the Pacific Ocean where the latter joins the Gulf of Nicoya. Across the latter is plainly seen the mountains of the peninsula of Guanacaste, and to the southeast the densely forested coast mountains of the mainland, extending toward Panama. Between the narrow strip on which Pigres is situated and the mainland proper is the *estero*, a broad creek of placid water bordered along each side by dense mangrove swamps. These are very narrow and of limited extent on the Pigres side, most of the land consisting of bare sand, covered in places with



OFF FOR THE HILLS AT BONILLA

patches of a trailing *Ipomæa* with broad leathery leaves and pink flowers, matted clusters of sprawling and very thorny leguminous shrubs, and thickets of low, spreading mimosa-like trees, interspersed with the poisonous *manzanilla*. Notwithstanding the dry season and almost total absence of flowers, birds were very numerous in the vicinity of the village, especially two species of ground dove + (*Columbigallina rufipennis* and *C. passerina pallescens*), and Morellet's seedeater, (*Sporophila morelleti*), large flocks of which were almost continually feeding on the + ground about the ranchos. *Columba rufina* and *Leptotila verreauxi* were also common in the thickets, while among the smaller birds the most numerous was the mangrove warbler (*Dendroica bryanti castaneiceps*). In these thickets were also secured two examples of the rare *Vireo pallens* and several of the still rarer hummingbird, *Arinia boucardi*, until then only known from the single pair in the Paris Museum, collected in 1875 by Mons. Adolphe Boucard, at Punta Arenas. The true home of the latter is in the mangrove swamps, and the specimens secured were stragglers which had come outside to feed upon minute ants and other in-



OUR PACK-TRAIN AT BONILLA

sects infesting the mimosa trees. The large and rare *Phaëochroa cuvieri* was the only other humming found on the Pigres side, where it was less common than on the opposite side of the estero. Immediately beyond the fringe of mangrove swamp across the estero a high mixed forest extended for many miles, and daily trips were made there, much the larger part of the species collected being found on that side only. Scattered through this forest were many specimens of the *roble de savana* (oak of the savanna), a bignoniaceous tree resembling the catalpa but with much larger flowers of a beautiful rose-pink color, among which many birds were feeding, especially several kinds of hummingbirds and the Baltimore and orchard orioles. Of the former, *Amazilia fuscicaudata*, *Phaëochroa* + *cuvieri* and *Chrysuronia eliciae* were most common, no *Arinia* being found. The undergrowth in this forest consisted chiefly of small *biscoyal* palms, bristling with long, slender thorns of needle-like sharpness, which proved a great nuisance and interfered seriously with our work. An attempt was made to clear them away from beneath one flowering *roble* tree to which hummingbirds seemed partial, but a few strokes turned and broke the edge of our machetes and we gave it up. Farther inland the *biscoyals* gave way to tall cannas, which were easily felled but grew so close together and so tall (sometimes ten to twelve feet) that birds could not be seen. In this forest of tall and often very large trees (we measured one which was thirty feet from the extremity of one buttress to that of the opposite

one and which had an enormously broad top, spreading certainly more than 150 and possibly 200 feet) macaws, parrots and parakeets were exceedingly numerous and noisy, the species collected being *Ara macao*, *Amazona auripalliata*, and *A. salmini*, and *Brologerys jugularis*. A rare toucan *Pteroglossus frantzii* was also found, likewise *Trogon bairdii*, both of which were obtained. Several times we saw the snow-white cotinga with yellow bill (*Carpodectes antoniae* Zeledon) and although one was shot it could not be found.

Among the biscoyal palms and tall ferns in more open parts of the forest, as well as in a clearing, grown up with bushes and tall weeds, the Pacific red-backed tanager (*Ramphocelus costaricensis* Cherrie) was abundant and as the National Museum possessed only one specimen of this bird, and that a young male, we of course collected a fine series.



IN THE POTRERO AT COLIBLANCO

The next place to engage our attention was Bonilla, on the Atlantic slope, whither we proceeded by way of the railroad to Limon, leaving the train a few miles below the town of Turrialba and walking from there to our destination, our outfit being transported on horses up the steep and rough mountain trail. Bonilla is an estate of 3000 acres belonging to Don Francisco Lopez Calleja, who, together with his partner and manager, Don Juan Gomez, of Turrialba, made every possible provision for our comfort and the successful prosecution of our work. Although Bonilla is in the humid so-called hot zone, its climate was by no means uncomfortable; but owing to the roughness of the ground and density of vegetation, collecting was very difficult except in the cleared areas. The latter (*potreros* or pastures), however, were wonderful places on account of the great variety and abundance of birds and the ease with which they were procured. Macaws (both the large green one, *Ara ambigua* and the red, blue and yellow one,

+ *A. macao*), parrots (*Amazona virenticeps* and *A. salvini*, *Pionus senilis* and *Pionopsitta haematotis*), and parakeets (*Conurus finschi*) were exceedingly numerous, as were also two large toucans (*Ramphastos tocar* and *R. brevicarinatus*), two smaller toucans, the common *Pteroglossus torquatus* and rare *Selenidera spectabilis*, being less abundant. Four species of trogons (*Trogon massena*, *T. clathratus*, *T. caligatus* and *T. tenellus*) were common, and smaller birds almost without number. We estimated the total number of species to be found in this locality at not less than four hundred. Every day were heard many species of which we were not able to get even a glimpse, owing to the dense vegetation and difficult ground of the places which they frequented. At this place we witnessed a flight of migrating hawks, passing northward, which comprised hundreds of thousands of individuals. They were a small species (about the size of *Buteo latissimus* or *B. brachyurus*), most of them light colored underneath but many of them wholly dusky in color;



GREAT EXCITEMENT OVER REDISCOVERY OF GUAYASTICUTUS CORY

+ Rican bell-bird, *Procnias tricarunculatus*, was occasionally seen or heard, and I had the pleasure (?) of shooting a fine male from the top of a very high tree and after watching it fall straight down for a hundred feet or more see it lodge among some air plants thirty feet up, where I could not possibly get it. The note of this bell bird is most singular, sounding like a heavy stroke with a hard mallet on a hollow log of hard wood, followed immediately by a wonderfully loud, clear and prolonged whistle—both easily heard at a distance of half a mile or more.

Not the least fascinating part of our experience at Bonilla was the shooting of hummingbirds from the flowering guava^b trees. These trees are small, open, and

whether there was more than one species we were not able to determine. The resident hawks at Bonilla were apparently few in number, the most numerous being the swallow-tailed kite (which by the way breeds there^a), next in order being *Rupornis ruficauda* and the beautiful snow-white *Leucopternis ghiesbreghtii*. One example of the rare ground cuckoo, *Neomorphus salvini*, was obtained, and also a single male of the beautiful white cotinga, *Carpodectes nitidus*, shot by our taxidermist, Adán Lizno, from a small company which alighted in the "laurel" trees inside the corral close by the house. A single umbrella bird (*Cephalopterus glabricollis*) was secured by Alfaro, being the only one seen; and on the higher potreros the Costa

^a On several occasions we saw them pulling long moss (*Tillandsia*) from the trees and carrying it to the nests they were building in tall trees on the potrero.

^b Not the tree which bears the fruit *guayava*, so universally mispronounced "guava."

spreading, so that the hummingbirds could easily be shot with the auxilliary barrel or collecting pistol. From one of these guava trees we collected fifteen species of hummers, among them several rare and exceedingly beautiful ones, as the minute, *Microchera parvirostris*, crimson with a snow-white cap, the grotesquely tufted and bearded *Lophornis helenæ*, and the thorn-tailed *Popelairia conversi*—neither of these larger than a small bumble-bee and therefore much smaller than any of our North American species.

Coliblanco, our next collecting place, is an estate belonging to Don Aurelio Lopez Calleja, of Cartago, on the lower slope of a mountain near the volcano of Turrialba, at an estimated altitude of about 6500 feet. With a good frame dwelling for our shelter and accommodation, kindly placed at our disposal by Don Aurelio, and a large clearing containing scattered trees of many kinds almost at the "back door," a more convenient collecting place could scarcely be imagined. A



ALFARO TAKING EGGS OF CONURUS PETZI FROM NEST OF WHITE ANTS

faint idea of the beauty of our surroundings may be obtained from the accompanying photograph of a portion of the potrero, a few hundred yards from the house. But a photograph, however good, gives only a weak impression of the scene, for the striking and harmonious color-scheme is wanting and therein, not less than in variety of form, consists the glory of tropical vegetation, as presented in the moist and cool upland regions. Almost every tree has its own peculiar hue of green; some are golden, some nearly russet, others blue-green, yellow-green or deep olive-green, according to the species. Most of the trees bore flowering vines or epiphytes, while some were decked in blossoms of their own, notably the erythrina trees, whose flowers were of the most brilliant vermilion red, or scarlet. These erythrina trees were frequented by two large and exceeding beautiful hummingbirds, *Heliodora jacula* and *Eugenes spectabilis*, of which good series were secured. In some parts of the potrero, chiefly on or near the water courses, magnificent tree-ferns, of at least

three species, were common, and in wet places grew large caladium-like plants whose immense leaves more than once sheltered me from the hard showers which sometimes caught me; for in such an event it was only necessary to sever the stem with my machete, sit upon a log or rock and hold the leaf over me, its size being such as to afford complete cover and shelter.^a

As naturally would result from the difference in altitude, the birds of Coliblanco were mostly different from those of Bonilla. Of toucans there was only one kind, the green *Aulacorhamphus ceruleigularis*; of trogons only *T. puella* and the Quetzal, here at the lower limit of its range. A nest of the latter was found, in a dead stump, some twelve feet from the ground, from which a young bird, full-fledged, was taken.^b

From Coliblanco a brief visit was made to a high potrero at the base of the ash-cone of Turrialba, at an altitude of 9000 feet. There everything was different, and it seemed as if the very climax of the beautiful in Nature was there manifested. Nothing I have ever seen elsewhere so much suggested the possibilities of Paradise, and short as was our visit I consider it alone worth the trip to Costa Rica. The air was cool and bracing as our finest October weather in the States; the several hundred acres comprising the potrero were like an immense, well-kept park, with long vistas through groves and clumps of magnificent trees over undulating lawns of vivid green cultivated grasses cropped close by the grazing cattle and studded with wild violets, buttercups and English daisies. But there was never a private or public park with such trees—so beautiful or varied in form and foliage, or so bedecked with flowers. I do not think it an exaggeration to say that every tree bore flowers, either of its own or of some climbing vine or epiphyte, while nearly all were further embellished by brightly colored bromeliads and other epiphytes, ferns, or orchids. To the right rose the cone of the volcano, covered with dense chaparral, while to the left, at a greater distance but still near enough to enable every detail to be clearly seen, the long ridge-like mass of Irazú. In this beautiful park birds were far more numerous than I have ever seen them elsewhere, or at least they were more in evidence, for the clear open character of the place enabled one to see them at long distances. Large black robins with golden yellow bill and feet (*Merula nigrescens*) ran gracefully upon the green sward, and it was rarely if ever that we were not within hearing of the whir or twitter of hummingbirds, the most numerous of which was the beautiful *Panterpe insignis*, remarkable for the fact that both sexes are equally brilliant in color. That truly royal bird the Quetzal was also common here, and, like every other species, very tame. For several minutes I watched a pair in a tree close by and could not shoot them—they were too beautiful. They could easily have been photographed but I had left my camera behind. I cannot express the reluctance with which I left this most beautiful place, even though it was our intention to return;^c but in this expectation we were disappointed, for soon after reaching Coliblanco the

a. Some of these large aroids are seen in the lower middle portion of the view accompanying this article (p. 155). Referring to the wonderful variety of plant-life here I will state as a matter of probable interest, that from a single moderate-sized stump in this potrero I gathered twenty-one distinct species of ferns! I am very sorry not to be able to present in this article one or more views from Bonilla, where the vegetation was even more remarkable than at Coliblanco, though almost wholly different, owing to the difference of several thousand feet in the elevation of the two places; but I was attacked by malarial fever (wholly unknown at Coliblanco and other high places) before I could get time to use the camera.

b. This young Quetzal, "Montezuma" by name, is a contented member of the aviary of Don Jose C. Zeledon at San Jose.

c. I should acknowledge here our obligations to Don Francisco Gutierrez, proprietor of the Icheria and potrero of Turrialba, and his son, Don Ramon Gutierrez, for their hospitality during our stay and a cordial invitation (which we were unfortunately prevented by a bad turn in the weather from accepting) to return and continue our collecting there.

temporal (steady and protracted rains) set in and we were forced to depart for San José. During our very brief stay (of less than 24 hours) at the lecheria on Turrialba some exceedingly rare species, including one new to science, were taken. What could have been found during a week's exploration is, of course, purely a matter of conjecture!

On May 20th I started, in company with my friends Zeledon and Alfaro, on my last collecting trip in Costa Rica. Going by rail to Cartago we took horses and rode to the lecheria "San Juan" on the volcano of Irazú, at an altitude of about 8500 or 9000 feet, and from there made two trips, on foot, to the top of the volcano (11500 feet). The forest on Irazú (of which, however, but little remains) consists chiefly of oaks, and is very different indeed from that on either Poás or Turrialba. The remnant of this forest is a narrow belt just below the ash-cone, and gives way abruptly to a rather scattered growth of small trees and bushes which become more and more sparse and small as the summit of the peak is approached, until on the highest point only a scattered growth of stunted shrubs, largely ericaceous (*Vaccinium*-like) exists. It is only in this upper thicket-growth that *Junco vulcani* is found, but there it was common and we had no difficulty in securing the desired number of specimens. Its associates were a high mountain form of *Brachyospiza capensis* and a small wren (*Thryorchilus species*^a), besides a few species, notably *Chlorospingus pileatus* and *C. zeledoni* and *Pezopetes capitalis*, which occur as intruders from lower parts of the mountain.

There are other matters concerning my experiences in Costa Rica, that might be of interest, but to extend this article much further might prove tiresome to the reader. Nevertheless I cannot resist the temptation to record some observations which may be useful to those who contemplate a first collecting trip to the Tropics and would like to know something as to the possible dangers and difficulties to be encountered. From my own experience I would say that these have been either greatly exaggerated or misrepresented, and that of all the alleged terrors of tropical collecting those *least* to be dreaded are the climate (except where excessive rains prevail), annoyance from insect pests, and danger from poisonous reptiles. Of danger from wild animals there is absolutely none. Even in the *tierra caliente* the heat is not nearly so great nor so oppressive as during the hottest weather in our Atlantic States, and the nights are always cool. On the mountains the climate is ideal, except where rains and heavy mists are frequent. It is true that there are, almost everywhere, some *garrapatas* (seed-ticks), *coloradillas* (red-bugs or chiggers), fleas, and mosquitoes; but I have on many occasions suffered far more from each of them in the States than at any time in Costa Rica. As to venomous creatures, I saw during the entire six months spent in Costa Rica only three snakes, two of these being harmless kinds, and not a single scorpion or centipede! No doubt there are localities where there is more or less danger from this source; but the fact that I saw so little evidence of it during an experience of six months, in all sorts of places, from sea-level to the highest point of land, is ample proof that as a deterrent to pleasurable collecting the risk is so very slight as to be really not worth considering. There is, however, a class of creatures that must be reckoned with—the numerous kinds of stinging bees, wasps, and hornets, which in certain districts (more especially in the dryer interior and Pacific slope) have their nests, sometimes several of them, in almost every tree. It is necessary to keep a sharp lookout for these, for the sting of some kinds is exceedingly painful and their attacks most savage and determined. The fire-ant is another nuisance but can easily be

tree/

a A new form, soon to be described by Mr. Outram Bangs.

avoided since it lives inside the swollen thorns of a particular species of shrub or small tree resembling our honey locust, easily recognized and therefore easily shunned.

The *real* terrors of Tropical collecting are the absence of comfortable shelter and palatable food, when one is once away from the towns, and the limitations upon travel and transportation. Off the carreta roads, which scarcely exist except between the towns and main settlements, only horse trails occur, and these for the most part over excessively rough, stony, hilly, and often slippery ground. On this account one's outfit must necessarily be restricted to what can be carried on horseback^a, unless the collector be sufficiently provided with funds to be able to hire pack animals and packer. The certainty of getting wet every day when one goes into the mountains (or even elsewhere during the rainy season) is also a serious matter, and the collector should be provided with several changes of shoes and clothing, since once wet they cannot, as a rule, be dried. Another thing worth mentioning, though a comparatively trifling matter to a young and strong collector, is the physical difficulty of collecting on account of the dense vegetation and rough nature of the ground, rendering it often practically impossible to recover a specimen after it has been shot^b. Frequently birds will lodge in a dense mass of air-plants, and can only be recovered by climbing, and sometimes this is not possible. The higher one ascends the greater the difficulties from this source, for the forests reach the maximum of density on the high mountains, where they are constantly drenched with rains or mists.

What most strongly impressed me during my stay in Costa Rica was a realization of the very fragmentary character of our knowledge of Tropical bird-life. Probably in no country of Central or South America have the birds been studied to a greater extent than in Costa Rica; yet far more than two-thirds of that country have never been ever visited by a naturalist, and within sight of San José are forests that have never been penetrated. At every locality where we collected, birds were heard each day that were never seen, although constant search was made for them; and I feel quite sure that even in localities that have been more or less "worked up" there are species of birds that never will be known to Science unless through accident or until they are driven from their haunts by destruction of their forest cover. Consequently the possibilities which may result from thorough exploration should be a powerful incentive to energetic work in Tropical America, and I would advise every enthusiastic young ornithologist who desires a field without limit to choose for his labors some part of that vast region.

Washington, D. C.

^a Excellent saddle-bags are easily procurable in the towns at very moderate cost.

^b We estimated our loss on this account at an average of two birds out of three in some localities!

Among the Sea Birds off the Oregon Coast, Part II

BY WILLIAM LOVELL FINLEY

PHOTOGRAPHS BY HERMAN T. BOHLMAN ^a

THE novelty of the situation had a great deal to do with alleviating the hardships and the difficulties we had to encounter in living five days among the sea birds on the vertical side of that rock isle. We had brought two ten-gallon casks of fresh water with us. We reasoned thus: if we were sea-bound on the rock by storm and had enough water to drink, we would not starve to death. According to the species of birds on the island, we made six different kinds of omelet. When the eggs were all hatched, if necessity compelled, we could dine on sea gull checks, even if they were not spiced up in good marketable chicken-tamale form.

The ledges were slippery and the rocks crumbly in many places. We could not climb along the shelves an hour without risking our lives in a dozen places. While camped on the rock, we wore rubber-soled shoes so we could hang and cling to the surface with some degree of safety. But even with these, as we hung to the ledges, we often found our toe-nails instinctively trying to drive through the soles of our shoes to get a better hold. We started with a new pair, but after four days of jumping and climbing on the sharp corners of the granite, we didn't have enough shoe left to tie on our feet, so we had to substitute burlap.

If it is the longing for adventure in the Anglo-Saxon veins you want to satisfy, you get it here on the rocks; if the love for Nature, you find her as she is. There's not much poetry on the island. The adoration of many of the nature lovers, who fall into ecstasies over the sweet singing of the birds and the lovely perfume of the June flowers, would receive an awful blow on the solar-plexus the minute they got into the midst of an ear-splitting, screaming, murre rookery, or got the faintest sniff of the atmosphere.

Up and down the ridge of the rock is the great colony of Brandt cormorants, the only "shag" found on the outer rock. Their nests are scattered only a few feet apart for over a hundred yards. I counted over 400 nests in this one colony. They were built up in funeral pyre fashion, a foot or more above the surface, by the debris of successive generations—grass and sea-weeds, fish-bones and the disgorged remains of past banquets. In every nest were four or five eggs of a skim-milk, bluish tint, over which it looked as if some amateur white-washer had smeared a chalky surface.

When a young cormorant is hatched, he looks as if some one had covered him with a black, greasy kid glove. The little beasts are not very pleasant to look at when you see them just coming out of the shell, but the gulls think these youngsters are the most palatable thing on the island. A nestful of them never lasts more than a few seconds if they are left unguarded.

When I first looked at the motley crowds of half-grown cormorants, that sat about in groups on the top of the rock, I thought Nature had surely done her best to make something ugly and ridiculous. They stand around with their mandibles parted and pant like a lot of dogs after the chase on a hot day. The throat is limp and flabby and hangs like an empty sack, shaken at every breath. Their bodies are propped up with a pair of legs that have a spread of webbed toes as large as a medium pan-cake. The youngsters have no very clear notion of what feet are for, at least on land, and when you go near, they go hobbling off like a boy in a sack

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race. They go teetering and tumbling along, using their short, unfledged wings as if they were a poorly handled pair of crutches.

However awkward the young cormorants are on level ground, they are experts at climbing. I put one youngster down three feet below his nest and he scrambled up an almost perpendicular bank. His sharp claws easily caught into



CLIMBING THE ROCKS

Courtesy of The Pacific Monthly

the rough surface of the rock, and he used his undeveloped wings like hands to hang on and help him up. When he got up to the edge of the nest, he hooked his bill in parrot-fashion and clambered over the rim.

From the summit of the Outer Rock, we could look directly across several

hundred yards to the two inner rocks. The ridge of the middle rock is held almost entirely by a colony of Farallone cormorants, while the smallest shelves far up the sides of both the inner rocks are the homes of the Baird cormorant. The Farallone cormorant, it seems, is not satisfied with a grass nest, but it collects a lot of sticks, that have been worn smooth by the waves, and works them in for a foundation. The young of this species is easily distinguished from the others by its bright yellow throat-pouch.



BRANDT CORMORANTS, THREE ARCH ROCKS, OREGON

The cormorants seemed to suffer most from the raids of the gulls. The instant a gull alights near a cormorant's nest, the owner of the nest takes the defensive by spreading her wide, black wings in a protecting canopy over her eggs or young. She darts her long, hooked bill at the intruder, who calmly composes his feathers and settles down into a statuesque silence. Gradually the fears are quieted in the black mother's breast, her wings relax to their normal position, as the sup-

posed foe seems to be only a friendly visitor. The gull is soon forgotten, as attention is taken up with others sailing overhead. The cormorant will never leave her nest unguarded, unless frightened away by a person. The instant she does leave, is the opportunity the gull is waiting for. He walks up, cocks his head on one side and inspects the unguarded nest with the air of a connoisseur. At times, I have seen him jab through the shell and devour the contents on the spot. Again I have seen him pick up an egg, swallow it whole or make off with it in his bill. On one occasion, I saw a gull pick up a small cormorant nestling by the wing, give it a shake and start to swallow it alive. It wouldn't go down crosswise, but he grasped the kicking youngster by the head and gulped him down; the downward passage of the little fellow was marked by a bulge in the throat, till he found a temporary resting place in the crop, where he looked to me quite out of place. Twice after that, I saw gulls swallow young birds, that seemed to me as large as their own heads. I have seen a gull pick up a murre's egg, large as it is, hold it firmly in its mouth and fly away. I never saw a gull with a bill strong enough to penetrate the shell of a murre's egg, but they know enough to drop the egg to a rock below and devour the contents.

When the young cormorants are too large for the gull to eat, if he finds them unprotected, the white thief will get a meal by making the youngsters disgorge. Often when you approach a squad of young cormorants or a nest full of gulls, they will begin vomiting in all directions and then take to their heels, as if they knew exactly what you wanted.

One day we were climbing along the ledges with our cameras, when a commotion above attracted our attention. A gull was furiously darting downward with an angry scream, evidently in battle with some other bird. The opponent was too far above to be in sight, but at each swoop of the gull, we could see they were drawing nearer the brink. A moment later, we saw a half-grown cormorant scrambling and flapping wildly to hold on the steep crumbly surface. At the next swoop, the gull clipped him on the neck and the momentum swept him over. The victim was heavier in body than the gull, but undeveloped and helpless on the wing. Down he flopped with a rumble and rattle of shale, bumping on the ragged rocks of the different ledges, catching an instant in a niche only to be knocked off by his remorseful pursuer. I saw him land a hundred feet below with a crash, square in the middle of a crowded ledge of murres. There was the commotion of an explosion in that peaceful community; such a grunting and squawking as a hundred pair of wings swept out over the sea. The poor cormorant, battered and bruised, was still alive. Before he had time to collect his senses, the flight of disturbed murres came rushing back. The gull was forced to abandon his victim, who had dropped plump into a veritable hornet's nest. The unfortunate black youngster was stung right and left, fore and aft, by the sharp bill-thrusts of the mad murres. He ambled out of there with about as much vigor as he landed, and limped to the top of a boulder, where he was left in peace. We found him still there in the afternoon, too sore and scared to move. As he sat there blinking and shuddering, it seemed to penetrate his inexperienced brain, that he had met with one of the hardest streaks of luck that anything in feathers had struck. Our sympathy went out to him and I bundled him under my arm and carried him back to the top of the rock, where I laid him down in a nest with five more that looked exactly like him.

It is a common occurrence for young birds to fall over the ledges of the cliff, where the population is so crowded. Late one afternoon, while preparing our

usual meal, we were suddenly startled by an avalanche of loose gravel and rubbish rattling down the side of the cliff. We jumped for the cover of the projecting ledge, just as a large cormorant came flopping down and with a sickening thud landed in a heap at our door step. He must have come from one of these nests that were seventy-five feet above us. Such a fall would have broken every bone



YOUNG BRANDT CORMORANTS

Courtesy of The Pacific Monthly

in the body of an ordinary creature. The youngster got up a little dazed, twisted his neck in a few grotesque curves as if he were just waking up. Then he deliberately climbed over our pots and pans onto the end of our dining table, crept right close beside our fire, drew in his long neck and went sound asleep.

I have been amazed at the fearful falls some of the young murrens and cormor-

ants receive with little, if any apparent injury. Their bodies seem to be built rubber-boned and rubber-jointed with a base-ball skin to stand such battering. It is not so with the young gulls. A fall half the distance seems to kill them instantly. The morning after the young cormorant dropped so unceremoniously among our dishes, I found two lifeless gulls on the ledge a short piece below our camp; they had undoubtedly dropped from some of the nests not more than thirty or forty feet above.

When we pitched our camp below the two murre rookeries, we knew they would squawk all day long, but we had no idea but that they would go to sleep when it got dark. We crawled in at nine o'clock that night to get some sleep. Just as we got well under way, two murres lit at the landing point of the rookery just over my head. Many of these birds had a habit of coming home late. Instead of moving on, the two got into some kind of an altercation on the spot. They wouldn't fight it out like a pair of good tom-cats, but for a good lively discussion, it outdid anything I have ever heard in a back-yard. I have slept in the midst of a heron rookery and never awoke amid the continuous clacking of the night herons. You can do it if there is a sort of regularity in the monotony of the chirps. But this was out of all proportion. I yelled and shooed for five minutes, but was not heard. I reached under my blanket, raked out a rock, crawled over and hurled it at the serenaders. The murres left, but they bore no grudge against me. Before I got covered up, they were back again and started in from the beginning. We simply had to wait till the quarrel ran its course. No matter what time we got to sleep, we were always roused at four in the morning and had to crawl out with the bird population and get breakfast. Every morning about that time, the murres would drop off the rock in squads and swim off southward to their fishing grounds.

The peculiar top-shape of the murre's egg is a unique device to prevent it from rolling. The practical value of this can be seen every day on the sloping ledges. We tried several experiments with these eggs and found they were of such taper, that not one rolled over the edge. When they were started down grade, they did not roll straight, but swung around like a top and came to a standstill four or five inches down. The eggs were tough shelled and a sharp push only sent one about nine inches before it whirled around on its own vertical axis.

A young murre seems to hatch with a little more vigor than an ordinary chick; he has to have strength in order to kick himself out of such a tough shell. When he first sees daylight, he is uniformly dusky in color, but he rapidly takes on a white shirt-front. When he is half grown, the white extends to the throat and the sides of the head. The old birds, on the contrary, have no white whatever on the throat and head.

On land, the murres are about as awkward as anything that ever grew a pair of wings. They have to flap and waddle along, bumping here and there, till they get a good start, before they can clear the ground. It is amusing to watch one sweep in from the fishing ground and land on the rock. When about twenty feet away, he begins to slack speed, then he spreads his legs and back-paddles, as awkward as a man, who has just slipped on a banana peel, and he strikes sprawled out in much the same shape that the man does.

Late one afternoon, we were sitting in camp with our feet dangling over the edge of the back porch, when our attention was caught by a gull that sailed out from the side of the rock about a hundred feet up. In his mouth, he held a screaming young murre. High above the rock-reef, he let him drop. Instead of the

youngster striking on the rock and being killed as the gull expected, he landed at the water's edge with a splash. He came up paddling and started oceanward, crying for help. He hadn't gone but a few yards when I saw the gull swoop and catch the squealing youngster again. He flew over to the reef, shaking the little fellow as a terrier does a rat, and would have made short work of him, had we not hurled two boulders at the murderer and stopped him in the very act. The little murre crawled up into a crevice. We examined him, but found no injury but a little blood on a wing.



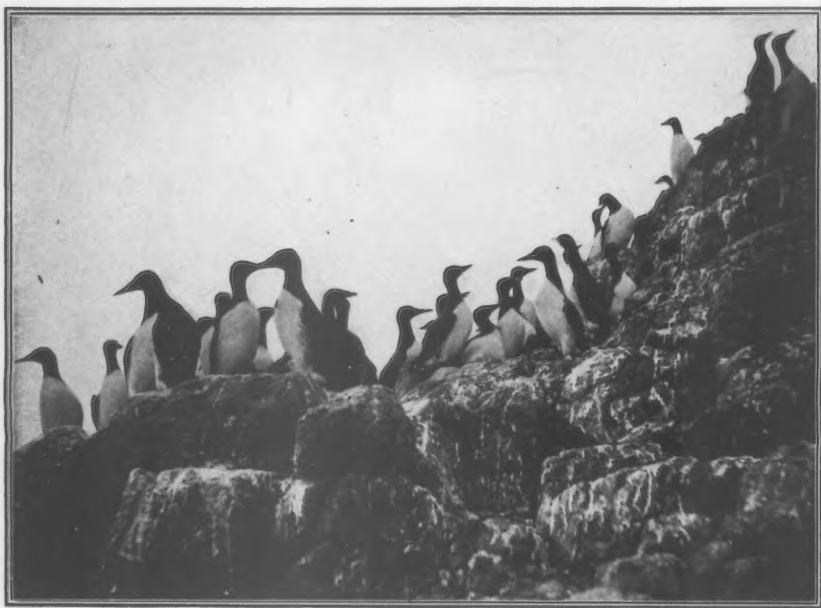
CALIFORNIA MURRE AND YOUNG

To watch a murre colony for a while, one would wonder why they persist in crowding so close together. Neighbors always seemed to be quarreling, hacking or jawing at each other. They are rarely hit because they all know how to dodge well. I have often seen a murre take out her spite on her neighbor's children. I was sitting a few feet away watching some mures. There were two matrons, each with a baby at her breast. The youngster of one mother seemed to have

gotten a little too near the other old lady, for she dealt him a rap on the side of the head that made him crouch back in a hurry. Instead of the chick's mother avenging by striking back at her neighbor, she suddenly reached over and took her neighbor's chick two sharp clips on the head. The old birds didn't strike at each other once, but several times the chicks got the benefit of the quarrel, until they dodged out of the way.

As you look over a large series of murre eggs, you see a perfect spring flower-garden of tints. You might wonder who the artist was who designed a thousand of them and got no two alike. Scientists have said that this variation in size, shape and color may be of use in helping the murre's to recognize their own eggs.

I questioned whether it was within a murre's limited intelligence to know her



A SECTION OF THE MURRE ROOKERY

Courtesy of The Pacific Monthly

own egg or chick, when there were several hundred others scattered about on all sides. I thought all she wanted was a part in the big nest group, and that she returned each time and planted herself on the first egg she found, and, like any old barn-yard fowl, didn't care a feather whether she or her neighbor laid it. But this is not so.

We lay stretched out on our stomachs on the ledge just above the big rookery, where we could watch the ordinary run of life and not disturb the birds in any way. When a murre arrived from the fishing grounds, he lit on the outer edge of the table, where he looked about after two or three elaborate bows. Then, like a man in a fourth of July crowd, he looked for an opening in the dense front ranks. Seeing none, he boldly squeezed in, pushing and shoving to right and

left. The neighbors resented such behavior and pecked at the new arrival with their long, sharp bills, but on he pressed amid much opposition and complaint, until he reached his wife. They changed places, and he took up his vigil on the eggs. The wife, upon leaving the rookery, instead of taking flight from where she stood, went through the former proceeding, although in reverse order, much to the disgust of the neighbors. They made a vigorous protest, and sped the departing sister with a fusillade of blows, until she arrived at the edge of the ledge, where she dropped off into space. Others were coming and going and kept up an interesting performance for the onlooker from above.

Then we went down and scared all the birds from the ledge and watched them return. Almost before we got back into position, the first one pitched awkwardly in and lit on the edge. She sat for a little bit clucking and craning her neck. Then she hobbled up the rock past two eggs, bowing and looking around. On she went in her straddling gait, stopping and cocking her head on one side till I saw her pass eight or nine eggs. Finally she poked an egg gently with her bill, looked it over and tucked it under her leg. By that time, the ledge was half full of birds, all cackling, pecking at each other, and shuffling about looking among the eggs. It took almost half an hour for life in the colony to drop back to its normal stage.

Two years later, when we sat and watched the some large rookery, there was hardly an egg to be seen. Where it was a little noisy during the days of incubation, it was the triple extract of bedlam turned loose when the murre had young. We tried the same experiment of scaring the birds from the ledge and watched their return. The young kept up a constant squealing from the time the old birds left; a noise that had the penetration of an equal number of young pigs that had just been roped and gunney-sacked. When the first old hen returned and lit on the edge, she bowed elaborately and started calling in cries that sounded, at times, just like the bass voice of a man and varied all the way up to the cackling of an old chicken. After sitting there for five minutes, she straddled up a few steps and started in from the beginning again. Some of the young came waddling down to meet their parents, calling all the time in piercing screams. One crawled hurriedly down to get under the old murre's wing, but she gave him a jab that knocked him clear off his feet, and sent him looking for his real mamma. She looked at two more that sat squealing, but passed them by and knocked another one sprawling out of her way. At last, a chick came up that seemed to qualify, for she let him crawl under her wing. The same thing seemed to be going on in every part of the ledge; I didn't see an old bird that accepted a chick until after calling and looking around for from five to twenty minutes. If the difference in size, shape, and color helps the murre to recognize her own egg, then the great variation in pitch, volume, and tone of the voice surely helps her to know her own child among so many others.

Portland, Oregon.

The Pacific Nighthawk

BY JOSEPH GRINNELL

†*Chordeiles virginianus hesperis* new subspecies.

SUBSPECIFIC CHARACTERS—Most nearly resembling *Ch. v. virginianus*, but:—outer surface of closed wing grayer toned; lower tail-coverts and feathers of belly region more narrowly and sparsely dark-barred; and, in the male, white patches on throat, wings, and tail more extensive.

TYPE—♂ adult; No. 6917 Coll. J. G.; Bear Lake, 6700 feet alt., San Bernardino Mts., California; July 30, 1905; collected by J. Grinnell and J. Dixon.

DISTRIBUTION—The race is based on 14 fresh specimens from the San Bernardino Mountains, California, where the species breeds in the Canadian Zone (7000-9000 feet), descending in its evening insect-hunts thru Transition (as low as 5000 feet). An example from Newport, Oregon, and several from the central Sierras (Amador and El Dorado Counties), California, are closely similar; so that it is probable that *Ch. v. hesperis* is the race visiting the whole Pacific Coast of the U. S. in summer, and breeding in the Canadian Zone from the San Bernardino Mountains northward.

REMARKS—*Ch. v. hesperis* is equal in size to the largest northern representatives of *Ch. v. virginianus*, that is, somewhat larger than examples of the latter race from Maryland and Virginia, and notably larger than the several races from the southern border of the U. S. In tone of coloration the male is much darker than in either *Ch. v. sennetti* or *Ch. v. henryi*. Altho somewhat lighter than *virginianus*, this is in the direction of pale gray and white rather than ochraceous. The extended mottling of the otherwise blackish feathers dorsally is responsible for this lighter tone, and especially notable is the extensive silvery gray mottling on the wing coverts. Yet this dorsal tone does not nearly reach the paleness of *sennetti*. The decrease in width and numbers of the dark bars on the belly and crissum gives that portion of the lower surface a decidedly whitish cast, as in *henryi*. But instead of a great extension of ochraceous or tawny dorsally as in the latter form, the brown tints are even less intense and extensive than in *virginianus*. The face region of *hesperis* is much paler than in *virginianus*, due to replacement of restricted deep tawny markings with larger ones of pale ochraceous. The same is true of the chest. The white patches on the throat, primaries, and rectrices of *hesperis* average decidedly larger. The patch on the outer primary invades across the shaft to include the outer web; and the same is observable of the patches on the tail-feathers.

Many of the above remarks apply also to the female, except of course where sexual differences are involved. The female of *hesperis* is gray rather than tawny, and is thus at once distinguishable from the female of *henryi*.

The nighthawks of the West deserve thorough overhauling. It is evident from the relatively scant material at hand that the name "*henryi*," as generally employed of late, is an aggregate, including at least three races. The birds breeding in portions of southern Texas are altogether different from those of Arizona and New Mexico (= *henryi*), while Rocky Mountain examples differ from both. I have seen no specimens of true *henryi* from California, and it is probable that all, or nearly all, of our references to *henryi* belong under the new name *hesperis*. Material is desirable from many localities—well-prepared skins, *free from grease*. Nighthawks are troublesome to save in good shape; and as I have lately learned, to give proper results a nighthawk skin demands about three times the time and patience that most any other bird does.

I am under obligation to the United States National Museum, thru Dr. C. W. Richmond, Acting Curator of its Division of Birds, for the loan of a pertinent series of nighthawks.

Pasadena, California.

Atratus versus Megalonyx

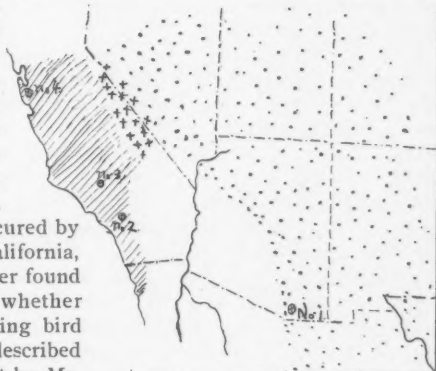
BY HARRY S. SWARTH

THAT the accepted arrangement of the towhees of the southwest, of the *Pipilo maculatus* group, is an arbitrary and artificial one, is a fact that is evident to anyone who studies the matter at all carefully. I refer particularly to *P. m. megalonyx* and *P. m. atratus*, as at present distinguished; *atratus* being confined to the coast district of southern California from the Sierra San Fernando, and Sierra San Gabriel, south into northern southern California, while *megalonyx* occupies the extensive territory lying between the Pacific Ocean and western Texas and from central California and Wyoming, south into northern Mexico. Now in the region outlined above I believe that two forms of *Pipilo maculatus* may be distinguished, but the dividing line should not be drawn as it is at present. That *atratus* is simply a synonym of *megalonyx* is, I believe, a demonstrable fact. That such is the case is by no means a new idea with me, for Pacific coast ornithologists have generally refused to recognize the race (see Grinnell, Condor IV, 1902, 23; Check list of California Birds, 58), but it is only lately that I have been able to get together material to properly demonstrate the facts of the case.

The type of *Pipilo megalonyx* was secured by Xantus at Fort Tejon, southern California, and as this towhee is resident wherever found in California, it makes little difference whether this particular specimen was a breeding bird or not. *Pipilo maculatus atratus* was described by Mr. Ridgway from specimens shot by Mr. Grinnell in the vicinity of Pasadena, some sixty miles distant from Fort Tejon and in the same faunal area. The principal distinguishing characteristic is the excessively dark coloration, with glossy black rump, uniform with the back. Of Pasadena specimens there was an abundant supply to be had, but skins from the type locality of *megalonyx* appeared, until recently, to be entirely lacking in California collections. In May, 1904, I made a short trip into the mountains southwest of Fort Tejon, and secured seven towhees at a spot about twelve miles from the fort, while a few weeks later Mr. Grinnell secured additional specimens at Mount Pinos, which I now have before me.

In all I have examined in this connection about one hundred and fifty specimens, from the following localities: Los Angeles County (mostly Pasadena specimens) 75; Mt. Pinos and Fort Tejon, 13; Piute Mountains, Cal., 1; Monterey, Cal., 5; San Francisco Bay region (*P. m. falcifer*), 15; Huachuca Mountains, Arizona, 20; scattered localities in Arizona and New Mexico, 9; besides specimens of *P. m. arcticus*.

Taking up the series from Los Angeles and Pasadena first, it appears that the



LINED AREA, *P. m. MEGALONYX*; DOTTED AREA, *P. m. MONTANUS*; CROSSES, PROBABLE AREA OF INTERGRADATION.

No. 1. Huachuca Mountains, type locality of *P. m. montanus*.

No. 2. Pasadena, type locality of *P. m. atratus*.

No. 3. Fort Tejon, type locality of *P. m. megalonyx*.

No. 4. Palo Alto, type locality of *P. m. falcifer*.

principal characteristic ascribed to *atratus*, excessively dark coloration, with, in the male, glossy black rump, concolor with the back, is fairly constant, but the black rump is characteristic only of fully adult birds, those in, at least their second year. Mr. Grinnell informs me that when he sent the specimens from which *atratus* was described, he selected, very naturally, the darkest colored, as the finest specimens, thus probably (though most innocently) misleading Mr. Ridgway as to the value of the characteristics he ascribed to the race. In a series collected in the vicinity of Pasadena by Mr. Grinnell he has very carefully marked each one of the fall and winter birds, all in fact in which the age can be determined by the condition of the skull, whether adult or immature, and in every case the "young of the year" has the rump grayish, very much lighter than the old males, which are glossy black over the whole back and rump. The gray-rumped birds are frequently taken in the spring when it is impossible to ascertain the age, so easily determined in the fall and winter, but the inference is that they are birds of the previous year, and that two years at least are required to obtain the full plumage. I have not seen the type of *Pipilo megalonyx* but should think it very probable that it was a bird in this stage of plumage.

Of the thirteen Mt. Pinos specimens, two juvenile males collected by Mr. Grinnell are marked "Fort Tejon," while two pair of adults are labeled, "Mt. Pinos." The seven specimens (five males and two females) taken by myself were shot in the mountains southwest of Mt. Pinos, probably ten or twelve miles from Fort Tejon. This material from the type locality of *megalonyx* is quite sufficient to admit of intelligent comparison with the series from Los Angeles and Pasadena, and it may be confidently stated that there is absolutely no difference between them. Of the seven males, six have the rump as black as any of the more southern birds, and there is no difference in size and proportions.

The single male bird from the Piute Mountains, Kern Co., California (north-east of Fort Tejon) is in fresh fall plumage (Sept. 9), is apparently an old bird, and has the back and rump as glossy black as any Pasadena specimen in the series. In the collection of the Field Columbian Museum of Chicago there is an interesting series of five birds (three males and five females) shot at Monterey, California, during February, 1903. Two of the three males have the back and rump (except the usual white markings on the scapulars) uniform glossy black, and any of the five can be matched exactly by Pasadena specimens.

In the series from Palo Alto (*Pipilo maculatus falcifer* McGregor) there are, unfortunately, but two females, and those in such poor shape as to be nearly worthless for comparison. The males are very slightly distinguished from *megalonyx*. In size they average a trifle smaller, and in color rather darker, evidently approaching *oregonus*, but it is questionable whether the differences are sufficiently marked to be worthy of recognition by name.

Turning now to the specimens from east of the Colorado Desert, an altogether different style of coloration is encountered. The birds are generally paler colored, with the white areas more extensive, and, in all the males examined, the rump is grayish, decidedly lighter than the back. In the light of the material examined it seems evident that while *atratus* is indistinguishable from *megalonyx*, the bird found east of the Colorado Desert, occupying the southern Rocky Mountain region, is a different, and hitherto unnamed, variety. For this race I propose the name of

† *Pipilo maculatus montanus* new subspecies.

SUBSPECIFIC CHARACTERS—Similar to *Pipilo maculatus megalonyx* but generally lighter

colored, and with white markings on tail, wing coverts and scapulars, more extensive; rump grayish; wing and tail longer than in *megalongyx*.

TYPES—♂ adult; no. 3972, coll. H. S. S.; Miller Canyon, Huachuca Mountains, Arizona; May 20, 1903; collected by H. S. Swarth.

DESCRIPTION—Head and neck all around, black; lower breast and abdomen, white; sides, chestnut, paler than in *megalongyx*, with a few partly concealed black markings on the edge, between the chestnut of the sides and the white belly; under tail coverts, pale fulvous. Wings, black; greater and middle coverts broadly tipped with white, forming two bars across wing; outer web of scapulars, white, except for an almost imperceptible edging of black; interscapulars with white spot on outer web; size of spots decreasing toward middle of back, but very few feathers on the back not showing some white markings. Rump, grayish, in marked contrast to the back. Three outer tail feathers tipped with white; lateral ones with outer web white for about terminal third. Length 224. ^aAlar expanse 290. ^aWing 91. Tail 109. White spot on lateral tail feathers 35. ♀ adult; no. 3875, coll. H. S. S.; Miller Canyon, Huachuca Mountains, Arizona; May 5, 1903; collected by H. S. Swarth.

DESCRIPTION—Generally similar to the male, but black of head, neck, back, etc., paler, more slaty. Chestnut of sides, paler. As compared with female *megalongyx* the chestnut sides are appreciably paler; white areas on wings, scapulars, etc., much more extensive; and the interscapulars are nearly all with white markings on the outer web. Length 215. ^aAlar expanse 270. ^aWing 86. Tail 101. White spot on lateral tail feather 27.

YOUNG—The only two juveniles of *montanus* in my possession are not sexed, but compared with juveniles of *megalongyx* of both sexes, from Fort Tejon and Pasadena, all in the streaked plumage, they are appreciably paler, with wing bars broader, and white spot on tip of lateral tail feather, much longer.

MEASUREMENTS—

		Wing	Tail	White spot on outer tail feather
50	♂♂ Los Angeles Co., Cal.	86.2	97.1	24.
7	♂♂ Mt. Pinos, Cal.	85.4	97.7	25.6
3	♂♂ Monterey, Cal.	83.6	96.6	23.3
10	♂♂ Palo Alto, Cal. (<i>P. m. falcifer</i>)	83.8	93.1	21.4
17	♂♂ S. Arizona and New Mexico (<i>P. m. montanus</i>)	92.2	106.5	31.2
25	♀♀ Los Angeles Co., Cal.	81.3	91.6	22.1
4	♀♀ Mt. Pinos, Cal.	81.2	91.2	20.5
2	♀♀ Monterey, Cal.	80.5	96.5	19.
9	♀♀ Arizona and New Mexico (<i>P. m. montanus</i>)	84.6	97.2	28.6

RANGE—The higher mountains of eastern Arizona, eastern California? central and southern Nevada and Utah, western Colorado and New Mexico, south into northern Mexico. The westernmost extension of the species in Arizona might be indicated by a line drawn from the Santa Rita to the Hualapai Mountains. Specimens of *montanus* were examined from the following localities: Huachuca Mountains and Fort Verde, Arizona; Rincon and Fort Union, New Mexico; Fort Loveland, Colorado; Provo, Utah; and West Minaca, Chihuahua, Mexico.

Besides the easily appreciable difference in color and proportion between *megalongyx* and *montanus*, there is a remarkable difference in the habits of the two races. *Megalongyx* is resident throughout its range in California, where it is found from the sea level well up into the mountains; "up to the limit of the undergrowth" (Grinnell, Pub. No. 1. Pasadena Acad. Sci., 40); "observed only below 6,500 feet" on Mt. Pinos (Grinnell, Auk, XXII, 1905, 389). It is probably more abundant in the willow thickets of the lowlands and along the streams in the lower foothills than anywhere else, and is strictly resident, the only migratory movement whatever being a partial descent from the higher parts of its range in midwinter.

Montanus is found in the mountains only, of Arizona, New Mexico, etc., where it is resident; and I have never seen it below 5,000 and but seldom below 5,500 feet. In the ranges I visited I found it equally distributed from 5,500 to 10,000 feet, and even when the snow was deep on the ground the birds did not descend into the foothills. I can find no record of the occurrence of this bird anywhere in Arizona or New Mexico except in the mountains, nor does it seem to have ever

^a Measurements from freshly killed specimen in millimeters.

been taken along the lower Colorado River; and the spurred towhee is not recorded from any of the desert regions of southern California, so that in the southernmost extension of their ranges, at least, *megalonyx* and *montanus* are separated by some three hundred miles of desert, in which neither form is found.

It may be of some interest to briefly glance over the distinguishing features of the various series of birds examined. Starting from the east we find first at the eastern base of the Rockies *arcticus*, with olivaceous back, extensively streaked with white. Going southward to New Mexico we encounter *montanus*, considerably darker, but with gray rump and with white streaks on back still quite extensive. I may say here that three examples of *montanus* from Fort Loveland, Colorado, have, in the character of their markings, a decided leaning toward *arcticus*. Crossing the desert to southern California, we find a still darker bird (*megalonyx*), with black rump and white markings on interscapulars reduced to a few spots. As we go north along the coast the birds became still darker, grading through *falcifer* to the extremely dark *oregonus*. With the specimens I examined it was possible to form an almost unbroken chain, both as to color and geographically from the olivaceous *arcticus* to black *oregonus*.

In this connection it may also be of interest to speak of some aberrant markings that were encountered in some of the specimens examined. These took the form in several examples of *arcticus*, of faint rusty markings on the occiput. A male specimen of *megalonyx* has a small chestnut spot on the middle of the throat, while another has nearly the whole of the back grayish, the black of the head being nearly as sharply defined against the back as in *Junco oregonus*. This last may possibly be a case of faded feathers due to arrested moult, though the specimen was shot in December and was otherwise in good condition. Another male specimen of *megalonyx* has the chestnut on one side much paler than on the other.

I would like in conclusion to express my gratitude to Mr. Grinnell for the loan of a valuable series of specimens from Pasadena and from Fort Tejon; to Mr. F. S. Daggett for the loan of a large number of skins from various localities in Los Angeles County and from Palo Alto; and also to Dr. Dearborn of the Field Columbian Museum for the privilege of examining the specimens under his care.

Chicago, Illinois.

The American Crossbill in Montana

BY P. M. SILLOWAY

— I N the summer of 1903 my attention was attracted by the unusual activity of the crossbill (*Loxia curvirostra minor*) in the Flathead forests. Late in June the adults became noticeable in their notes and movements, and in early July the subject was noted in my journal. On July 6, I made a record of the singing of the male as indicative of the fact that the birds were apparently enjoying a summer nuptial season; but somehow I had formed the conclusion that the crossbill nests only in late winter and early spring, and hence I was unusually blind to the real doings of the noisy chatterers in the tops of the tall conifers.

The regular call-note of the crossbill is a syllable sounding somewhat like the word "quit," generally uttered when the bird begins its flight from one station

to another, and given several times in nervous repetition. This note is also heard when the birds are at rest in the tree-tops, or when diligently rending the seeds from the fir and tamarack cones. The male uses this note as the basis of his song, which can be suggested by the syllables: "Quit, quit, quit, quit,—preen, preen, preen." Sometimes the last note is given four times, and frequently as many as five, while at times there is variation in the number of repetitions of the opening note. There is also considerable variation in the enunciation of the two notes, making them sound quite differently on various occasions. Once this summer I quoted the first note or the regular call as "pweet," and wrote the full song as "preet, preet, preet,—ooree, ooree, ooree."

The nuptial singing of the male is generally heard when he is accompanying the female and stationed near her in the tree-top. Frequently there are more than two birds, probably one female and two or more males, or two adults and several young of the spring. Troops of five or six are most commonly seen, the male sitting quietly and singing his nervous song while the others are sending down spatterings of cone-seeds. Soon something will startle the troop, and away they whir to another station, the adults chirping noisily as they fly.

It is most interesting to watch a troop of crossbills getting down to the water to drink and bathe. For such purpose they generally congregate in larger flocks, and I have seen as many as thirty or forty use one tree-top. They seem to prefer the middle of the forenoon or late afternoon. Most of the crossbills in a small locality will collect into a noisy band, and gather in the top of some chosen tree on the margin of the water. Then one by one they will flutter downward through the midst of the branches, reminding the observer of falling leaves. Thus they sift downward to the lowest branches of the tree, usually a tall one, sometimes several of the birds flitting downward at one time. From the lower branches of the tree they flutter to the edge of the water.

The crossbills take pleasure in congregating on a small area to feed near a cabin door in a forest clearing. I have seen thirty crowding on a space not more than two feet square, feeding on refuse from the kitchen. Once a cat crept up in the usual feline manner, and made a spring directly into the midst of the troop; on that occasion, however, though several of the birds seemed to be quite under her paws, the cat was unsuccessful in holding any of them, and in a few minutes they were flitting back to the same dangerous place.

The remarkable activity of the crossbill in the late summer seemed very unusual to me, and I felt quite certain that the birds were nesting in the neighborhood. I had read, however, that the regular nesting time is late winter, when snow is on the ground; and while I made a mental note that there must be a mistake somewhere, I did not then give the subject due attention. This season, however, the same condition of affairs prevailed in the economy of the crossbills, and I decided that the nuptial singing of the males must be explained.

On July 19 a pair of crossbills flitted down to the ground almost at my feet, quite overlooking my presence, the male chattering to his spouse. To my surprise she began picking up fragments of twigs in the edge of the clearing. Presently she flew away with a suitable twig, and carried it into the top of a tall tamarack in the outer part of the adjacent woods. I watched her while she made several similar errands. The site was near the extremity of a horizontal branch, about 100 feet from the ground. Frequently she made trips to a neighboring tamarack tree, and gathered pieces of small twigs, breaking them from their places and carrying them to the nest.

The next day the pair did not seem to be working on the nest. The male

was sitting high in a neighboring tree, near the end of a horizontal branch, singing his "preet, preet, preet, preet,—ooree, ooree, ooree," but the female was not seen during the half hour I watched while he sat in the one place and sang. I could not understand the situation, but later it became clear to me.

On July 26 we investigated the status of affairs at the crossbill's nest. It was exactly 100 feet from the ground, about five feet from the main trunk; but the supposed nest was only a collection of small twigs. It was really a "dummy," on which the birds had worked very faithfully for a time. For a while I was puzzled; then it occurred to me that the real nest must be somewhere near the place where the male had sat so long and sung on the former occasion. I turned my attention to the place, and presently the male came to the place, hopped carelessly along the branch, to a suspicious-looking tuft of small twigs, and then passed farther along the branch. Then I could see the nest, and could even see the female sitting there.

On July 27 the real nest was taken. It was sixty-five feet from the ground, among twigs ten feet from the main stem of the tall tamarack tree which contained it. It was taken by tying a long rope about twenty feet above the nest, and then swinging it out on the ground until the collector could swing alongside the nest. It contained four eggs, on which the female sat until shaken from her cosy home. The nest was made externally of dry tamarack twigs, with fine dry grass stems, dark brown lichens, and horsehair. The cavity measured three inches and two and one-half inches major and minor axes, and was one and three-fourths inches deep. The base of the nest was a mass of bark strippings and gossamer. When blown, two of the eggs were found to be in an advanced state of incubation, the other two showed only traces of incubation. The female came near the collector several times, and once or twice sat by the side of the nest while the eggs were being packed. Later she was taken with the nest. The male did not come near while the collectors were at work.

In this connection I wish also to record the occurrence of the white-winged crossbill (*Loxia leucoptera*) in this region in summer. On one occasion I saw a beautiful male at Swan Lake, with a troop of American crossbills, bathing at the water's edge, under circumstances where there could be no mistake, though I did not collect it. Later I saw a female at Lake MacDonald, near Belton, when there could be no mistake in identification. It is my opinion that the crossbill breeds in numbers in this region, an opinion warranted on observations extending over six years, though I have never taken a nest until this season; and contrary to the general data as given in the books, the height of the breeding season in this region is the mid-summer.

Lewistown, Montana.

FROM FIELD AND STUDY

Discovery of a Second Egg of the Black Swift.—On June 16, 1901, I took an egg of + the black swift (*Cypseloides niger borealis*) and recorded it in *The Auk*, XVIII, 394. The authenticity of this egg was questioned by many, and altho I was positive myself, since I had no proof I had to be contented in knowing that I was right. I therefore resolved that if ever good fortune favored me again I would secure sufficient evidence to convince the most skeptical. Consequently I have been on the watch ever since, but not until July 9th of the present year, 1905, did I receive my reward by discovering the second egg or set, the circumstances being identical with those of 1901; that is, the birds were flying around in the vicinity of the nesting site, sometimes nearby and again a mile or two away.

By watching most diligently for several days I saw the birds dart downward and over the cliff on the ocean shore, a few miles from Santa Cruz, California. The cliff at this point turns sharply inland, forming a miniature bay, and lowering until it finishes in a small gulch or large crevice in the land, reached by the breakers only at high tide.

The nesting site was in the cliffs where the shore line turns inland, at a point where the cliff is forty or fifty feet high, and overhangs twenty feet or more, forming a sort of cavern. The egg was placed on a shelf or pocket about twenty feet from the top of the cliff, behind a tuft of grass, with which the rocks in this particular place are covered, owing to the moisture from constantly dripping water. There was no nesting material whatever, the egg lying on the wet mud and a little of the trampled green grass, just as on the former occasion.

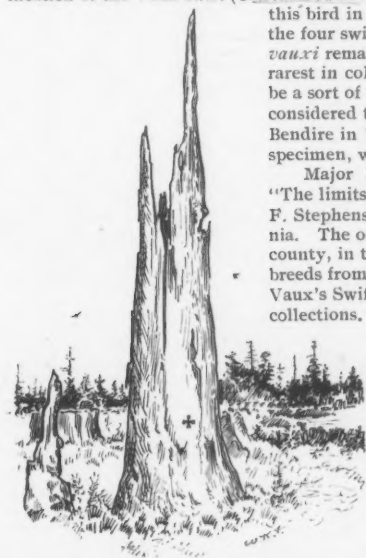
Upon preparing the egg I found that incubation was at least two-thirds advanced, and the specimen was saved with difficulty. I took the egg by means of a swinging rope ladder, with the aid of a dip-net and pole eight or ten feet long, after having flushed the bird and watched with field glasses her return to the exact spot from which the egg was taken. The egg is dull white, in shape is like a hummingbird's, and measures one and one eighth by three-fourths of an inch.

To make the identity more complete I yet had to secure the birds, which I did, after reaching the top of the cliff, by shooting them as they flew by a few minutes later. I still have the skins. I trust that this will prove beyond all doubt the identity of the take and place the same on record.—A. G. VROOMAN, Santa Cruz, California.

The Nest and Eggs of the Vaux Swift.—So little has been recorded concerning the nidification of the Vaux swift (*Chaetura vauxi*) that an account of the taking of a nest and eggs of this bird in northern California cannot fail to awaken interest. Of the four swifts numbered in our avifauna, the eggs of *Chaetura vauxi* remain, with the exception of those of the black swift—the rarest in collections and the securing of such a prize has come to be a sort of tradition in rarities. This may be realized when it is considered that the type egg figured by the late Major Charles E. Bendire in his "Life Histories of North American Birds," a single specimen, was taken in 1874.

Major Bendire in his work (Vol. II, p. 183) says, in part: "The limits of its breeding range are not well defined as yet. Mr. F. Stephens considers it only a rare migrant in southern California. The only breeding records I have are both from Santa Cruz county, in this State, and it appears reasonable to suppose that it breeds from there northward. But very few nests and eggs of Vaux's Swift have, as far as I am aware, found their way into collections.

"Dr. C. T. Cooke writes me from Salem, Oregon, that on May 9, 1891, he discovered one of their roosting and probably also breeding trees in the Willamette Valley—a large, inaccessible, dead and hollow cottonwood. The only eggs of Vaux's Swift I have seen were taken in June, 1874, near Santa Cruz, Cal. The nest is described as composed of small twigs, glued together with the saliva of the bird, and fastened to the side of a burned-out and hollow sycamore tree. It was not lined, and evidently was quite similar to the nest of the Chimney Swift. From three to five eggs are deposited to a set, and only one brood appears to be raised. The eggs resemble those of the Chimney Swift both in shape and color, but are considerably smaller."



NESTING STUB OF VAUX SWIFT

Cross denotes position of nest

siderably smaller."

The three specimens in the United States National Museum collection, mentioned by Major Bendire, measured: 0.72 by 0.48, 0.70 by 0.50, and 0.69 by 0.49 inch, respectively. The type specimen was taken by Dr. James C. Merrill, U. S. A., at Santa Cruz.

The predilection shown by this swift, for building its nest in the hollows of lofty trees, beyond the reach of the most ambitious oologist, is responsible, chiefly, no doubt, for the rarity of its eggs, but I was fortunate last spring in securing a set of six, taken by Mr. Franklin J. Smith, in Humboldt county, with a photograph of the nesting stub, of which a sketch is reproduced. Although it was an exceptional opportunity to secure the eggs, as the dead stump was not over thirty feet in height, the feat was not readily accomplished by the

(Continued on page 179)

THE CONDOR

An Illustrated Magazine of Western Ornithology

Published Bi-monthly by the Cooper Ornithological Club of California

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JOSEPH GRINNELL, Business Manager and Associate Editor, Pasadena
R. E. SNODGRASS, WILLIAM L. FINLEY, Associate Editors

Palo Alto, California: Published Nov. 22, 1905

SUBSCRIPTION RATES

Price in the United States, Canada, Mexico, and U. S. Colonies one dollar a year; single copies twenty-five cents. Price in all countries in the International Postal Union one dollar and a quarter a year.

Subscriptions should be sent to the Business Manager; manuscripts and exchanges to the Editor.

Entered Jan. 16, 1903, at Palo Alto, Cal., as second-class matter.

NOTES AND NEWS

The editor regrets that he will be unable to continue longer in his present capacity. With the January issue Mr. Joseph Grinnell will preside in the editorial sanctum, and all manuscripts for publication, papers for review, and exchanges should be sent to him at Pasadena, California. Subscriptions, club dues, and advertisements should be addressed to H. T. CLIFTON, Box 404, PASADENA, CALIFORNIA.

Thus THE CONDOR will migrate southward, and in the Land of Sunshine we hope to see it wax greater as the club grows, and steadily enlarge its sphere of usefulness. We desire to take this opportunity to thank the many contributors who have cooperated in making the magazine what it has been during the past three years. We trust that in the future they will continue to respond to the importunities of the insatiable editor. Mr. Grinnell brings to his task both enthusiasm and equipment so that our readers may look to see further improvement in the magazine, provided they respond from the financial side—and respond promptly!

We are in receipt of the following communication:

To the Editor:

We are rightfully proud of the high place THE CONDOR occupies among the scientific bird magazines of the country and feel sincerely grateful to the men who by their untiring efforts have placed it where it is. Now I would ask if we are not strong enough as a Club to turn to a work that is sadly needed, the work of stimulating the proper interest in our native birds. There are thousands of young people wishing to know the birds they see about them, and who can help them as efficiently as such an organization as the Cooper Ornithological Club? This work is certainly not beneath our notice; in fact the people of our State have the right to ask this help from us as the only well organized Club of

the kind with a magazine of its own. Surely we as a Club can undertake no greater work than to bring the people of our State in closer touch with our own wild birds. May we not look to the Club to add a new department to THE CONDOR with the opening of the new year that shall be distinctly for the help of young naturalists? Our young people are subscribing for eastern bird papers that are of no practical value to them because we here in California are doing nothing for them. The call for such a department is strong and now that THE CONDOR has an established reputation as a scientific bird magazine are we not strong enough to increase its good work and answer this call of the many who would know the familiar birds of our forests and gardens?

BERTHA CHAPMAN,

Oakland, Cal. Director of Nature Study.

We heartily endorse Miss Chapman's plan for a new department which shall bring the young people of the State into closer touch with our native birds. Such a department could also be made of great use to the increasing number of teachers of nature study who now have practically nothing to fall back upon. As everyone knows the eastern magazines devoted to this purpose are almost useless, being particularly confusing to the beginner on account of the different avifaunas of the two sections of the country. We trust that the way may be clear to make this addition to THE CONDOR in the near future.

Mr. Richard C. McGregor, who has returned from the Philippines for a visit, has kindly relieved us of a disagreeable task by compiling the index which is printed with this issue. At the November meeting Mr. McGregor gave an interesting account of "The Distribution of Philippine Birds," illustrated by a number of specimens.

Messrs. Finley and Bohlman have promised to continue during 1906 their articles and pictures on western bird life. These have been a most attractive and valuable feature of THE CONDOR during the past two years, and the articles for the coming year promise to surpass even the best of their previous efforts. Mr. Finley now devotes most of his time to this work, and we feel singularly fortunate in being able to publish such able articles and illustrations fresh from the field. It is a rare opportunity.

It is only fair to state that the unusually large number of illustrations in this issue is made possible by the financial cooperation of several members of the Northern Division. With our present income we cannot regularly afford so many in each issue.

The annual dinner will probably be held at Tait's Cafe, Powell and Market streets, San Francisco, January 13 at 8 P. M. A short business meeting for election of officers will be held at 7:30 sharp, in the Council Room of the California Academy of Sciences.

In the Proceedings of the Biological Society of Washington XVIII, 225, Oct. 17, Mr. J. H. Riley notes that *Picus torquatus* Wilson, 1811,

is preoccupied by *Picus torquatus* Boddaert, 1783, a South American form known as *Cerchneipicus torquatus*. As none of the other names given to the Lewis woodpecker prove available it is named *Asyndesmus lewisi* Riley.

Dr. C. Hart Merriam presented a paper entitled: "Work of the Biological Survey in California, with special reference to Birds," at a meeting of the Section of Ornithology, of the California Academy of Sciences, October 3.

The Twenty-third Congress of the American Ornithologists' Union convened in New York City November 14.

The Southern Division held their annual October Outing Meeting at Newhall on October 28 and 29.

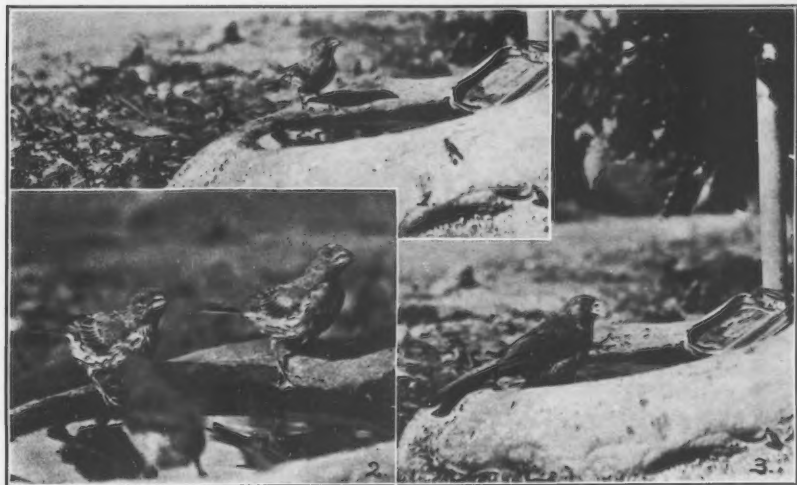
We again desire to thank The Pacific Monthly of Portland, Oregon, for the use of three plates for Mr. Finley's article.

space it has been necessary to defer four important articles. At the last moment we have been obliged to omit four portraits of European Ornithologists which were intended for this issue, and some club minutes already set up. These will appear in January.

FROM FIELD AND STUDY

(Continued from page 177)

collector, and while the eggs were saved the nest fell to pieces. The stump was situated in a small ravine, with only two or three tall trees near. The set was taken on June 15, and the eggs were fresh. The nesting site was discovered by watching the birds circling in rapid flight. They would circle nearer and nearer, and when directly over the stub would be seen to dart straight down into it. The nest



1 AND 2, HOUSE FINCHES; 3, ANTHONY TOWHEE
Photographed by Joseph Mailliard

In view of the publication of the recently adopted International Code of Zoological Nomenclature (Entwurf von Regeln der Zoologischen Nomenclatur. Als Grundlage fuer einer Neubearbeitung der internationalen Regeln der internationalen Nomenclatur-Commission vorgeschlagen von F. C. v. Maehrenthal in Berlin <Zoologische Annalen, I, 1904, 89-138. Also Bull. 24 of the hygienic laboratory of the Public Health and Marine Service of the U. S.; reprint of English text by C. W. Stiles) Dr. David Starr Jordan will not publish his new code of nomenclature, extracts from which were given in this journal January last, pp. 28-30. Dr. Jordan has reviewed the English text of the 'International Code' in *Science* of Oct. 20.

Owing to unusual demands on available

was built of pine needles, glued together with birds' saliva, and fastened to the walls of the stub, which were very smooth. It was a narrow affair, and the six eggs lay side by side. The nest was only about two feet from the ground, so that the climber was obliged to descend almost the entire distance inside the nesting stub. This set of eggs is now in the fine oological collection of Colonel John E. Thayer. The eggs, as Major Bendire stated, are markedly smaller than those of the chimney swift, and are noticeably conical. They correspond exactly, in size, with the specimen figured in "Life Histories."—H. R. TAYLOR, *Alameda, Calif.*

Birds Drinking.—While in Santa Barbara this past summer my attention was attracted to the comparatively fearless way in which the

birds about the gardens came to drink and bathe in the bowls and basins placed under hydrants for their use, many species concerning themselves but little about the presence of people a few feet away. With persons reading or even conversing, say twenty-five or thirty feet from a favorite hydrant, many of the birds would drink or take a succession of refreshing dips with absolute indifference to the fact that any one was near, yet ever alert for their natural enemies.

Though I never have had any experience in the art of bird photography, the opportunities in this case were too tempting to let pass. Selecting a hydrant where the sun shone unobstructed for some hours in the day, a screen was rigged up, at a distance of seven feet, by means of a clothes horse and some old matting, while a borrowed kodak that had to be set up on a box and focused by means of a sheet of note paper instead of ground glass, a whole lot of patience and more failures completed the outfit. No, it did not either. The back or open side of the screen was against the thorniest rose bush I ever saw—or felt! Birds came too early and came too late and few of them chose the hours when the light was right, while somebody was pretty sure to walk by the spot almost every time a bird or so did come, and frighten it away just as it was commencing to look pleasant. The accompanying group is the better part of my efforts. These photographs were taken at a distance of about three feet.—JOSEPH MAILLIARD.

Minutes of Club Meetings

NORTHERN DIVISION

SEPTEMBER.—The Club met September 2 at the residence of Miss M. Ella Hall, Oakland, Cal. Seventeen members and one visitor were present. Owing to the absence of an executive officer, the meeting was called to order by the secretary, and Mr. W. Otto Emerson was appointed chairman *pro tem*. A series of resolutions from the Southern Division was read and discussed at length. On motion, the resolutions were ordered laid on the table.

The death of one of our Honorary Members, Mr. Walter E. Bryant, was announced, and the Chairman appointed Mr. H. R. Taylor, Mr. W. K. Fisher, and Mr. H. C. Ward a committee to draft resolutions expressing the regrets of the Club. The resolutions were ordered published in THE CONDOR. (Published in last issue.) The program was now taken up. Mr. W. K. Fisher presented "In Memoriam: Walter E. Bryant," and Mr. Thompson read a paper on "California Jay and Thrasher." Refreshments were then served by the ladies of the Club, and meeting adjourned to meet in San Francisco, November 4, 1905.

CHARLES S. THOMPSON, Secretary.

SOUTHERN DIVISION

JUNE.—The regular monthly meeting was held June 22 in Room 1, City Hall, Los Angeles, with twelve members and one visitor present and President Law presiding. The applica-

tion of Mr. C. K. Knickerbocker, 303 Western Union Building, Chicago, Ill., was presented. Mr. G. Willett, 110 N. Figueroa St., Los Angeles, Cal., was elected to active membership. Resolutions recently passed by the Northern Division, regarding the issuing of permits for the collection of nests and eggs, a copy of said resolutions having been forwarded to this division, were then read. After thoro discussion by those present, it was unanimously voted to refuse to accept these resolutions as expressing the opinion of the Southern Division upon this matter but to give this opinion form in the following resolutions, which were unanimously adopted.

WHEREAS, the Legislature of the State of California has at the urgent solicitation of the bird lovers and bird students of the State, and particularly at the solicitation of the Cooper Ornithological Club, passed a measure which will, if properly enforced, accomplish to a large degree a long needed protection to bird life; and

WHEREAS, for the purpose of furthering the said protection to bird life, the said Legislature has vested in the Board of Fish and Game Commissioners of the State of California and in them solely and at their discretion the power of issuing permits to persons desiring to collect birds, nests, and eggs; and

WHEREAS, the said Board of Fish and Game Commissioners is making a strong effort to prevent the ruthless slaughter of birds and destruction of their eggs, and in the matter of permits for collecting, the said Board is issuing no permits except to persons who have satisfied the Board that they are collecting for bona fide scientific purposes, and that they will not abuse the privilege granted them, now therefore be it

RESOLVED, That the Southern Division of the Cooper Ornithological Club views with hearty approval the efforts of the Board of Fish and Game Commissioners of the State of California to confine the killing of birds and the taking of their eggs to true scientific limits by refusing to grant permits to those collecting for merely commercial purposes or as mere hobbyists; and be it further RESOLVED, That the members of the Southern Division of the Cooper Ornithological Club have been very fairly treated by the said Board of Fish and Game Commissioners and the examination they have been subjected to in order to secure permits, has been only such as is reasonable in order to carry out the purposes of the said protective measure; and be it further

RESOLVED, That the Secretary of this the Southern Division of the Cooper Ornithological Club, be instructed to forward a copy of these resolutions to the said Board of Fish and Game Commissioners; to spread a copy of the same on the minutes of the Southern Division; to publish a copy of the said resolutions in the next issue of the Club's official organ; and to send a copy to the Northern Division of the Cooper Ornithological Club; and be it finally

RESOLVED, That certain resolutions adopted by the Northern Division of the Cooper Ornithological Club "viewing with alarm" the good work of the said Fish and Game Commissioners and published as the views of "The Cooper Ornithological Club" should have been labelled the views of "The Northern Division of the Cooper Ornithological Club."

The next meeting of this division being the October Outing Meeting, the President was authorized to name two members to act with himself as committee of arrangements for that meeting.

The program was opened with a most interesting talk upon "Hawaiian Birds" by Prof. Loye Holmes Miller, of the State Normal School, Los Angeles. At the conclusion of Prof. Miller's remarks opportunity was given for examining specimens and asking questions.

In the absence of Mr. John M. Willard his paper for the evening, entitled "Some Thoughts Regarding Young Birds," was read by the Secretary. This described several interesting experiences with the young of the Wilson phalarope, and of the snowy plover.

H. T. CLIFTON, Secretary.

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